

REMARKS

The Office Action mailed June 17, 2008, has been received and its contents carefully noted. Of the pending claims, claims 1-7 and 9-17 were rejected and claim 8 was objected to by the Examiner. Claims 2 and 15 have been amended to place them in still better grammatical form. No change is made to their substance. Reconsideration of the claims in view of the following remarks is respectfully requested.

Objection to Abstract

Objection has been made to the Abstract as too lengthy. The Abstract has been amended by cutting it down to the requisite length hereby. Withdrawal of the objection thus is solicited.

Rejection under 35 U.S.C. 103(a)

The Examiner rejected claims 1, 2, 7, 9, 12, 13, 16 and 17 under 35 U.S.C. 103(a) as being unpatentable over Sakamoto (US 20020001788). The Examiner rejected claims 3 and 4 as being unpatentable over Sakamoto in view of Yoo (US 20030162372). The Examiner rejected claim 5 as being unpatentable over Sakamoto in view of Yoo and further in view of Applicants' Admitted Prior Art. The Examiner rejected claim 6 as being unpatentable over Sakamoto in view of Yoo and further in view of Watanabe (US 5,863,602). The Examiner rejected claims 10, 11, 14 and 15 as being unpatentable over Sakamoto in view of Jun (US 6,211,094). Each of the rejections is traversed.

The Examiner correctly admits that Sakamoto (US 2002/0001788) does not disclose Applicants' requirements of (i) thin films deposited on first test wafers with less consumption of process gas than on the surfaces of the production substrates, and (ii) thin films deposited on second test wafers with more consumption of the process gas than on the surfaces of the first test wafers. The Office Action purports to dismiss this deficiency of Sakamoto with the assertion that Sakamoto teaches optimization of temperature setting. The Action concludes that it

therefore would have been obvious to those of ordinary skill in the art to have deposited films on first and second test substrates in the way that Applicants require. This is erroneous.

Sakamoto does not recognize, or suggest to those of ordinary skill in the art, Applicants' underlining reasons for their particular method steps as recited in claim 1, or thermal processing control structures as recited in independent claims 12, 16, and 17. Each of independent claims 1, 12, 16, and 17 commonly recites Applicants' requirement of first thermal processing with "less consumption" of process gas than used for production substrates during processing of the first substrates, and second thermal processing with "more consumption" of process gas than for the first substrates during thermal processing of the second substrates.

As appreciated from the background explanation provided by Applicants' specification, the recited first thermal processing for the first substrates involves "less consumption" of process gas than for production substrates because the first substrates are those that generate very little or no "loading effect" during the processing. Applicants have explained the "loading effect" within the specification, for instance, see the paragraph bridging pages 21 and 22. As Applicants also explain, in connection with their preferred, exemplary embodiments, the first substrates are dummy wafers that already have oxide films of a given thickness thereon. By contrast, the second thermal processing step, involving "more consumption of the process gas" than the first substrates is done for wafers that exhibit a significant "loading effect". That is why Applicants teach use of bare wafers, with exposed silicon, as the second substrates. When, according to Applicants' corrective steps and corrective calculation apparatus, the results of film formation during these first and second thermal processings are compared, the extent of the loading effect can be determined. Applicants' calculations go further and cancel the loading effect before thermal processing of production substrates is carried out. That is, Applicants correct their set temperature valves so as to cancel the loading effect. When the loading effect is canceled for the production substrates, the processing results in films of high uniformity, irrespective of any given wafer's position or zone within the processing container.

Nothing concerning this problem or Applicants' solution thereto is taught or suggested by Sakamoto to one of ordinary skill. Likewise, nothing of the loading effect problem recognized and overcome by Applicants is suggested to those of ordinary skill in the art by any of Yoo, the admitted prior art (APA), Watanabe, or Jun. For at least these reasons, Applicants courteously urge that all of the rejections based upon Sakamoto alone, or Sakamoto in view of Yoo, the APA, Watanabe, or Jun are overcome. Withdrawal thereof courteously is solicited.

Allowable Subject Matter

The Examiner objected to claim 8, but indicated it would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Early indication of allowable subject matter has been appreciated.

Request for Interview

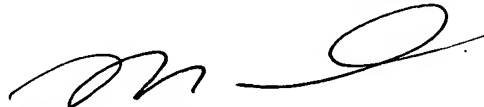
Applicants respectfully request either a telephonic or an in-person interview should there be any remaining issues.

CONCLUSION

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Therefore, it is respectfully requested that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

It is not believed that extensions of time are required, beyond those that may otherwise be provided for in accompanying documents. However, in the event that additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. 1.136(a), and any fees required therefor are hereby authorized to be charged to **Deposit Account No. 02-4300, Attorney Docket No. 033082M241.**

Respectfully submitted,
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